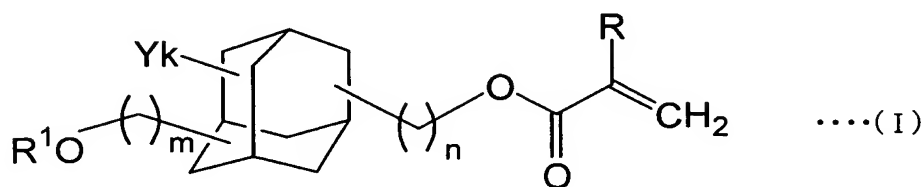


## CLAIMS

1. An adamantane derivative, characterized by comprising a structure represented by a general formula (I):

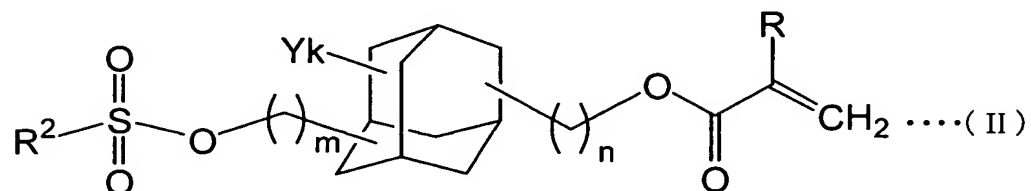


where R represents a hydrogen atom, a methyl group, or a CF<sub>3</sub> group, Ys each represent an alkyl group having 1 to 10 carbon atoms, a halogen atom, or a hydroxyl group, or two Ys are coupled to form =O, and multiple Ys may be identical to or different from each other, R<sup>1</sup> represents an alkyl group or a cycloalkyl group having 1 to 10 carbon atoms, and may contain a hetero atom and/or a nitrile group in part of its structure, k represents an integer of 0 to 14, and m and n each independently represent an integer of 0 to 4.

2. An adamantane derivative according to claim 1, wherein a substituent except Ys is present at a bridge head position.

3. An adamantane derivative according to claim 1 or 2, wherein R<sup>1</sup> represents a group having tertiary carbon adjacent to O.

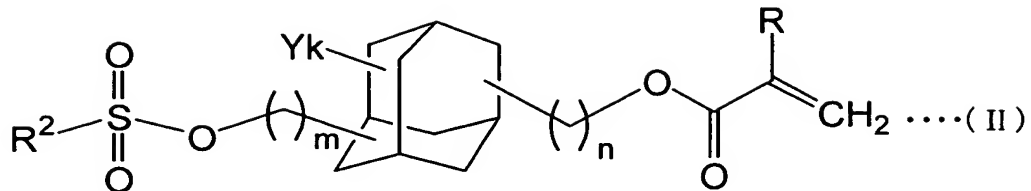
4. An adamantane derivative, characterized by comprising a structure represented by a general formula (II):



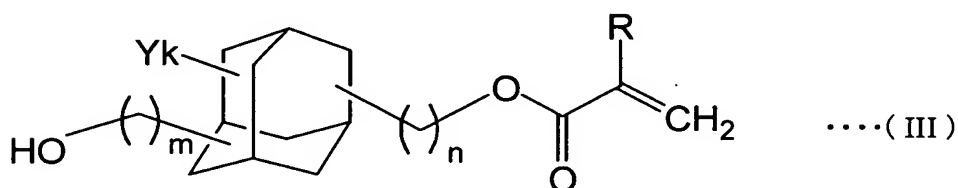
where R represents a hydrogen atom, a methyl group, or a  $\text{CF}_3$  group,  $\text{R}^2$  represents an alkyl group having 1 to 10 carbon atoms, a phenyl group, an alkylphenyl group, or a  $\text{CF}_3$  group, Ys each represent an alkyl group having 1 to 10 carbon atoms, a halogen atom, or a hydroxyl group, or two Ys are coupled to form  $=\text{O}$ , and multiple Ys may be identical to or different from each other, k represents an integer of 0 to 14, and m and n each independently represent an integer of 0 to 4.

5. An adamantane derivative according to claim 4, wherein  $\text{R}^2$  represents a methyl group.

6. A process for producing an adamantane derivative having a structure represented by the general formula (II):



where R represents a hydrogen atom, a methyl group, or a  $CF_3$  group,  $R^2$  represents an alkyl group having 1 to 10 carbon atoms, a phenyl group, an alkylphenyl group, or a  $CF_3$  group, Ys each represent an alkyl group having 1 to 10 carbon atoms, a halogen atom, or a hydroxyl group, or two Ys are coupled to form  $=O$ , and multiple Ys may be identical to or different from each other, k represents an integer of 0 to 14, and m and n each independently represent an integer of 0 to 4, the process being characterized by comprising reacting an alcohol form of an adamantane compound represented by a general formula (III):



where R, Ys, k, m, and n each have the same meaning as that described above, with a sulfonyl compound represented by a general formula (IV):



where  $\text{R}^2$  represents an alkyl group having 1 to 10 carbon atoms, a phenyl group, an alkylphenyl group, or a  $\text{CF}_3$  group, and X represents a hydroxyl group or a halogen atom.

7. A process for producing an adamantane derivative according to claim 6, wherein the alcohol form of the adamantane compound represented by the general formula (III) and the sulfonyl compound represented by the general formula (IV) are reacted with each other in an organic solvent having a dielectric constant at  $20^\circ\text{C}$  of 8 or less.

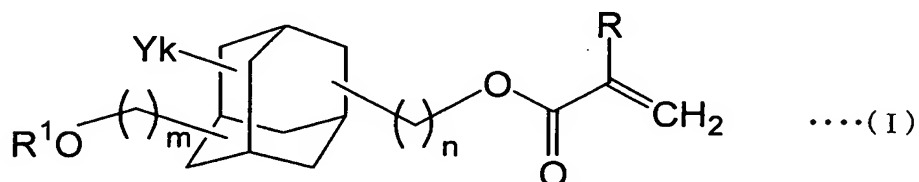
8. A process for producing an adamantane derivative according to claim 6 or 7, wherein the sulfonyl compound represented by the general formula (IV) comprises methanesulfonyl halide.

9. A process for producing an adamantane derivative according to any one of claims 6 to 8, wherein, after the alcohol form of the adamantane compound represented by the general formula (III) and the sulfonyl compound represented by the general formula (IV) have been reacted with each other, a reaction product is separated from a liquid after completion of the reaction, a poor solvent for

a by-product polymer in the reaction product is added to the reaction product, and a precipitate of the by-product polymer to be produced is removed.

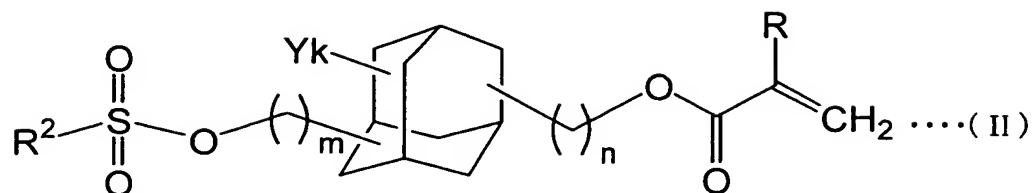
10. A process for producing an adamantane derivative according to claim 9, wherein the poor solvent for the by-product polymer comprises methanol.

11. A process for producing an adamantane derivative represented by the general formula (I):



where R represents a hydrogen atom, a methyl group, or a  $CF_3$  group,  $Y_s$  each represent an alkyl group having 1 to 10 carbon atoms, a halogen atom, or a hydroxyl group, or two  $Y_s$  are coupled to form  $=O$ , and multiple  $Y_s$  may be identical to or different from each other,  $R^1$  represents an alkyl group or a cycloalkyl group having 1 to 10 carbon atoms, and may contain a hetero atom and/or a nitrile group in part of its structure, k represents an integer of 0 to 14, and m and n each independently represent an integer of 0 to 4, the process being characterized by comprising reacting an adamantane derivative

represented by the general formula (II):



where  $\text{R}^2$  represents an alkyl group having 1 to 10 carbon atoms, a phenyl group, an alkylphenyl group, or a  $\text{CF}_3$  group,  $\text{R}$ ,  $\text{Ys}$ ,  $\text{k}$ ,  $\text{m}$ , and  $\text{n}$  each have the same meaning as that described above, with an alcohol.

12. A process for producing an adamantane derivative according to claim 11, wherein 3-methanesulfonyloxy-1-adamantyl (meth)acrylate is reacted with the alcohol.

13. A process for producing an adamantane derivative according to claim 11 or 12, wherein the alcohol comprises a tertiary alcohol.